Using the Web Browser

Surf the Internet on your TV.

⌂ > WEB BROWSER

- When you select ⌂ > WEB BROWSER, you can see recently viewed web sites or featured recommendations. When you select a desired web site, you can get immediate access to it.

- You can use the WEB BROWSER more easily after connecting a keyboard and mouse.

- You can scroll web pages with the Directional pad.

- The web pages may differ from those on a PC.

Playing pictures/video/music

Play media content stored on your TV, USB devices, smartphones, cameras, PCs, etc.

⌂ > ⊡ Source
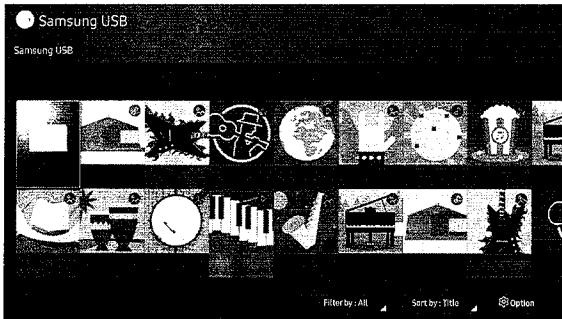
- The image on your TV may differ from the image above depending on your model and geographical area.

You can play media content saved on storage devices, such as USB devices, mobile devices, and cameras, on the TV.

- You cannot play media content if the content or the storage device is not supported by the TV. For more information, refer to "Read Before Playing Photo, Video, or Music Files."

- To connect the TV to a computer, refer to "Connecting a Computer."

- Backup important files before connecting a USB device. Samsung is not responsible for damaged or lost files.

- To connect the TV to a mobile device, refer to "Connecting a Mobile Device."

Rating apps

You can rate an app on the detailed information screen using the left or right directional button on the remote.

Using other app features and functions

⌂ > ⚙ Settings > Broadcasting > Expert Settings > Channel-bound Apps

A channel bound app provides information about offerings and services available on one channel. You can receive information about TV programs and other relevant services available on one channel while viewing TV by using a channel bound app that is installed on the TV and linked to that specific channel.

- ✎ This function is only available when an app supporting **Channel-bound Apps** is installed on the TV.

- ✎ Among the channels received through the antenna, this function is available only in the channels that support **Channel-bound Apps**.

Using the e-Manual

Control and read the manual embedded in your TV.

Launching the e-Manual

⌂ > ⚙ Settings > Support > Open e-Manual

You can view the embedded e-manual that contains information about your TV's key features.

- ✎ Alternatively, you can download a copy of the e-Manual from Samsung's website.

- ✎ Words in blue (e.g., **Picture Mode**) indicate a menu item.

Using the buttons in the e-Manual

🔍 (Search)

A-Z (Index)

🕒 (Recently Viewed Topics)

🅑 (Try Now): Allows you to access the corresponding menu item and try out the feature right away.

🔗 (Link): Allows you to access the corresponding reference page.

- ✎ Some menu screens cannot be accessed from the e-Manual.

Moving apps

1. Select My Apps > Options > Move.
2. Select an app to move.
3. Move the app to the desired location.
4. Press the Select button.
5. Select Done.

   This function is not available on certain models in specific geographical areas.

Removing an app

1. Select My Apps > Options > Delete.
2. Select an app to delete.
3. Select Delete. The selected app is deleted.

   Ensure that the related app data is also removed when you remove an app.

Updating apps

1. Select My Apps > Options > Update.
2. Select an app to update.
3. Press the Select button. The app is updated.

   This function is only available when My Apps contains an app that needs updating.

Locking and unlocking apps

1. Select My Apps > Options > Lock/Unlock. Check boxes appear on the apps.
2. Select an app to lock or unlock. To lock an app, click on it to check it. To unlock an app, click on it to remove the check.
3. Select Done. The selected app is locked or unlocked.

Automatically updating apps

The installed apps can be automatically updated. If you do not want apps automatically updated, set My Apps > Options > Auto Update to Off.

   Automatic update is enabled only when the TV is connected to the Internet.

Installing and running an app

Installing an app

1. Move to the app you want to install, and then press the Select button. The detailed information screen appears.

2. Select Install. When the installation is complete, you can run it immediately.

   ◢ You can view installed apps on the My Apps screen.

   ◢ When the TV's internal memory is insufficient, you can install an app on a USB device.

   ◢ You can run an app installed on a USB device only when the USB device is connected to the TV. If the USB device is disconnected while an app is running, the app is terminated.

   ◢ You cannot run an app installed on a USB device on a PC or another TV.

Launching an app

You can run a selected app on the My Apps screen. The icons below appear within the selected app's icon and indicate the following:

- 🖾 : The app is installed on a USB device.
- 🖾 : The app has a password.
- 🖾 : The app is installed.
- 🖾 : The app needs to be updated.
- 🖾 : The app supports Smart View.

Managing purchased or installed apps

On the My Apps screen, move the focus to the desired app, and then press and hold the Select button. You can also select My Apps > Options to manage installed apps.

Adding apps to the Home Screen

1. Select My Apps > Options > Add to Home.
2. Select an app to add. The selected app is added to the Home Screen.

Playing media content

1. Select a device with media content in ⌂ > ⊡ Source. The media content list in the device appears.

2. Select a media content item from the list. The content is played.

   ⌁ For more information about buttons, refer to "Buttons and functions available while playing multimedia content."

   ⌁ The content may not be played depending on the encoding method or file format. Furthermore, several functions may be restricted.

   ⌁ Content on devices connected to the TV via your network may not play smoothly due to the network communication problems. If this occurs, use a USB device.

   ⌁ When you connect a USB device to a USB port, a pop-up message appears that lets you switch easily to the media content list on the device.

Functions on the media content list screen

You can use the following functions on the media content list screen of a storage device.

- Filter By

  Filters the media content by type of media. (music, photo, video, etc.)

- Sort By

  Sorts the content list.

- Options

  Deletes or plays the selected media content in the media content list.

  ✎ You can delete only the recorded content. To delete content, change the **Filter By** option to **Recorded**.

Using the GAMES Service

Enjoy games provided with Smart Hub.

  🖉 Availability depends on the specific model.

⌂ > GAMES

  🖉 The image on your TV may differ from the image above depending on your model and geographical area.

You can install or run games. The installed games are stored in My Games.

  🖉 This function is not available on certain models in specific geographical areas.

Installing and running a game

Installing games

1. Move to the game you want to install, and then press the Select button. The detailed information screen appears.

2. Select Install. When the installation is complete, you can run it immediately.

  🖉 You can see the installed games on the My Games screen.

  🖉 To get the information about the game controllers that are compatible with the downloaded game, select GAMES > Controller.

  🖉 When the TV's internal memory is insufficient, you can install a game on a USB device.

  🖉 You can play a game installed on a USB device only when the USB device is connected to the TV. If the USB device is disconnected during game playing, the game is terminated.

  🖉 You cannot play a game installed on a USB device on a PC or another TV.

- If you want to review the Terms and Conditions, select **View Details**.
- If you want your account to be protected, select **Profile image selection and password entry (High security)** in the field below the password field.
- If you want the TV to log you in to your account automatically when you turn the TV on, click **Sign me in automatically**.

Creating a Samsung account using a Facebook account

⌂ > ⚙ Settings > System > Samsung Account > Create with Facebook

Signing in to a Samsung account

⌂ > ⚙ Settings > System > Samsung Account > Sign In

Changing and adding information to a Samsung account

⌂ > ⚙ Settings > System > Samsung Account > Edit Profile

- To change the account information, you must be logged in to your Samsung account.

Managing payment information saved on the TV

⌂ > ⚙ Settings > System > Samsung Account > Payment info

- To manage the payment information, you must be logged in to your Samsung account.

Deleting a Samsung account from the TV

⌂ > ⚙ Settings > System > Samsung Account > Remove Account

- To remove the account information, you must be logged in to your Samsung account.

Removing an Item on the Home Screen

To remove an item on the Home Screen, move the focus to the item you want to remove, press the down directional button, and then select **Remove**.

Moving an Item on the Home Screen

To move an item on the Home Screen, move the focus to the item you want to move to a new position, press the down directional button, and then select **Move**.

Launching Smart Hub automatically

⌂ > ⚙ Settings > System > Expert Settings > Autorun Smart Hub

When you set Autorun Smart Hub to On, the TV displays the Home Screen automatically when you turn the TV on.

Testing Smart Hub connections

⌂ > ⚙ Settings > Support > Self Diagnosis > Start Smart Hub Connection Test

Resetting Smart Hub

⌂ > ⚙ Settings > Support > Self Diagnosis > Reset Smart Hub

Using a Samsung account

Create and manage your own Samsung account.

Creating a Samsung account

⌂ > ⚙ Settings > System > Samsung Account > Create Account

Some of the Smart Hub services are paid services. To use a paid service, you must have an account with the service provider or a Samsung account.

- You can view the entire text of the Terms & Policy in ⌂ > ⚙ Settings > System > Samsung Account > Samsung account Terms & Conditions, Privacy Policy after logging in to your Samsung account.

- You can also create a Samsung account at http://content.samsung.com. Once you have an account, you can use the same ID on both the TV and the Samsung website.

When you press the ⌂ button on your remote control, you can use the following functions and features.

- ⚙ Settings

  When the focus is moved, a quick settings appears on the top of the menu. You can quickly set frequently used functions.

  - Picture Mode

    You can select the picture mode that provides the best viewing experience.

  - Select Speaker

    You can select which speakers the TV uses for audio output.

  - Sound Mode

    You can select a sound mode to optimize your listening experience.

  - Caption

    You can watch TV broadcasts with captions.

    ✎ This function is not available on certain models in specific geographical areas.

  - PIP

    While using a connected external device, you can watch a TV broadcast in a small picture-in-picture (PIP) window.

    ✎ This function is not available in the U.S.A. and Canada.

    ✎ This function is not available on certain models in specific geographical areas.

  - Network

    You can view the current network and Internet status.

  - Sleep Timer

    You can automatically shut off the TV after a pre-set period of time.

  - More

    Displays TV settings.

- ⊡ Source

  You can select an external device connected to the TV.

  ✎ For more information about connecting external devices, refer to "Switching between external devices connected to the TV."

- 🔍 Search

  You can search the apps or games in Smart Hub services.

Automatically updating games

The installed games can be automatically updated. If you do not want games automatically updated, set My Games > Options > Auto Update to Off.

📌 Automatic update is enabled only when the TV is connected to the Internet.
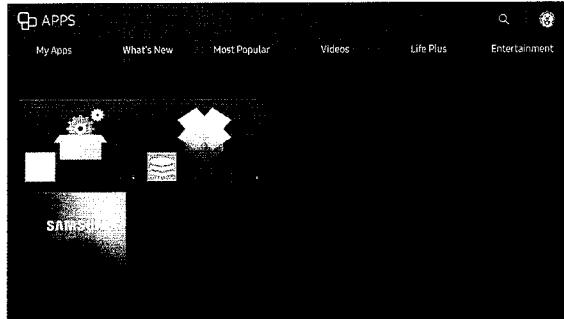
Rating games

You can rate each game in the detailed information screen.

📌 This feature is only available when the game is installed on your TV.

Using the APPS Service

Download and run various apps from Smart Hub.

⌂ > APPS

📌 The image on your TV may differ from the image above depending on your model and geographical area.

You can enjoy a wide range of content including news, sports, weather, and games by installing the corresponding apps on your TV.

📌 To use this feature, the TV must be connected to the Internet.

📌 When Smart Hub is launched for the first time, the default apps are automatically installed. The default apps may differ with the geographical area.

Running an installed game

To run a game, select GAMES > My Games.

Managing purchased or installed games

On the My Games screen, move the focus to the desired game, and then press and hold the Select button.
You can also, select My Games > Options to manage installed games.

Adding a game to the Home Screen

1. Select My Games > Options > Add to Home.
2. Select a game to add to the Home Screen. The selected game is added to the Home Screen.

Removing a game

1. Select My Games > Options > Delete.
2. Select a game to delete.
3. Select Delete. The selected game is deleted.

Updating a game

1. Select My Games > Options > Update.
2. Select a game to update.
3. Press the Select button. The game is updated.

   Update can only be selected when there are updates available.

Locking or Unlocking a game

1. Select My Games > Options > Lock/Unlock. Check boxes appear for individual games.
2. Select a game to lock or unlock. To lock a game, click on it to check it. To unlock the game, click on it to remove the check.
3. Select Done. The selected games are locked or unlocked.

Controlling the TV with a Keyboard or Gamepad

Connecting a keyboard or gamepad makes it easier to control the TV.

Connecting a USB keyboard

Plug the keyboard cable into the USB port.

Connecting a Bluetooth keyboard and gamepad

⌂ > ⚙ Settings > System > Input Device Manager > Add Bluetooth Keyboard & Gamepad

🖉 This function is not available on certain models in specific geographical areas.

🖉 If your device was not detected, position the keyboard close to the TV, and then select **Refresh**. The TV scans for available devices again.

Using the keyboard

Keyboard	Remote control functions
Directional keys	Moves the focus
Windows key	Displays the TV settings
Enter key	Selects or runs a focused item
ESC key	Returns to the previous screen
F1 / F2 / F3 / F4 key	Color buttons — ■ / ■ / / ■
F5 key	Launches the Home Screen
F6 key	Displays the source screen
F7 key	Launches the Channel List
F8 key	Mutes the sound
F9 / F10 key	Adjusts the volume
F11 / F12 key	Changes the channel

Connecting a Computer

Use the TV as a computer monitor or connect the TV to a computer via your network and access the computer's content.

Connecting through the HDMI port — Screen sharing
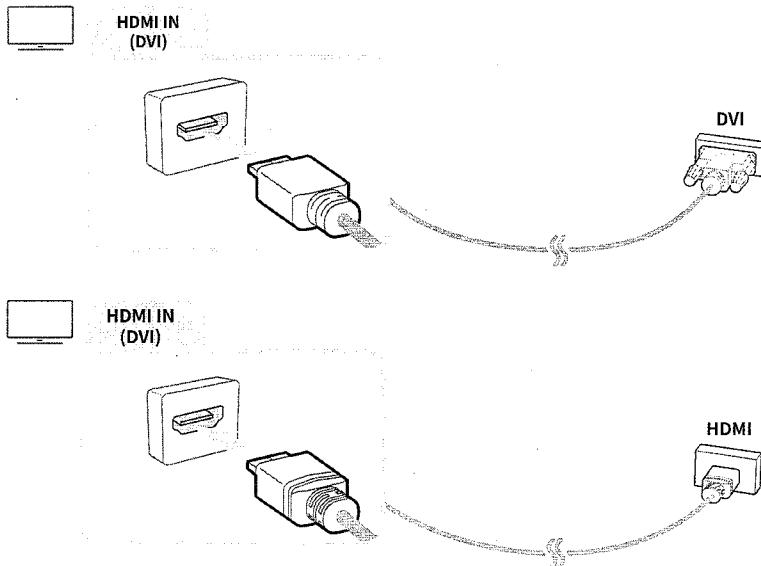
   When your PC is connected, select PC for the **Device Icon**. For more information about the port settings, refer to "Editing external devices."

Connecting through the Smart View app — Content sharing

When the TV is connected through the Smart View program on your PC, you can easily play content for photos, videos, and audios through the TV. For more information, refer to the Connection Guide (⌂ > ⊡ Source > Connection Guide).

Connecting a Mobile Device

View a mobile device's screen by connecting the mobile device to your TV or network.

Using Smart View (Screen Mirroring) or contents sharing

You can play media content saved on your mobile device on the TV's screen and share contents by connecting with the mirroring function.

1. Launch the Smart View (Screen Mirroring) function on your mobile device. The mobile device searches for available devices to connect to.

2. Select the TV from the list. The TV connects to the mobile device.

   🖉 If your mobile device does not find your TV, turn the TV and the mobile device off and then on and try again.

   🖉 If there are multiple TVs, you can easily select any of different TV names in ⌂ ❯ ⚙ Settings ❯ Network ❯ Device Name.

Connecting mobile devices without a wireless router (Wi-Fi Direct)

⌂ ❯ ⚙ Settings ❯ Network ❯ Expert Settings ❯ Wi-Fi Direct

🖉 To use Wi-Fi Direct, the Wi-Fi Direct function in the mobile device must be active.

Connecting a mobile device via the Smart View App

When you install the Smart View App on your mobile device, you can play the mobile device's multimedia content on your TV or control the TV using the mobile device. You can download the app from Google Play Store, Samsung Apps, or the App Store.

🖉 To use the Smart View function, the mobile device must support the mirroring function such as AllShare Cast and Smart View. To check whether your mobile device supports the mirroring function, please visit the mobile device manufacturer's website.

Switching between external devices connected to the TV

You can switch between TV programs and the content of external devices.

Changing the input signal

⌂ > ⊡ Source

When you select a connected external device on the Source screen, the output of the selected device is displayed on the TV's screen.

⚡ In case of the models that support the universal remote control, connect an external device (e.g. Blue-ray device, game console) to the HDMI port and turn on the device. Then a pop-up message appears to switch to the device or automatically configure the settings. For automatic configuration for the universal remote control, turn on the external device and point the remote control to the device. Note that this function may not be supported depending on the device type.

⚡ When a USB device is connected to the USB port, a pop-up message appears that lets you switch easily to the media content listed on the device.

Editing external devices

⌂ > ⊡ Source

You can change the port name for a connected external device or add it to Home Screen.

1. Move the focus to the device to edit.

2. Press the Up directional button. The following functions become available. (Note that available functions may differ with the port type.)

    − Edit: You can change the port name of an external device for easy identification.

    − Add to Home: You can add the port of an external device to the Home Screen for quick switching.

Using additional functions

You can use the following features on the Source screen.

• Connection Guide: The guide to device connections

• Universal Remote Setup: The function that lets you register external devices to your Samsung Smart Remote

    ⚡ This function is not available on certain models in specific geographical areas.

    ⚡ For more information, refer to "Controlling External Devices with the Samsung Smart Remote - Using the Universal Remote."

Installing an anti-theft lock

An anti-theft lock is a physical device that can be used to protect the TV against theft. Look for the lock slot on the back of the TV. The slot has a 🔒 icon next to it. To use the lock, wrap the lock cable around an object that is too heavy to carry and then thread it through the TV's lock slot. The lock is sold separately. The method of using an anti-theft lock may differ for each TV model. Refer to the lock's user manual for more information.

   🖉   This function is not available on certain models in specific geographical areas.

Read before setting up a wireless Internet connection

Precautions for wireless Internet

- This TV supports the IEEE 802.11 a /b /g /n /ac communication protocols. Samsung recommends using IEEE 802.11n. Video files stored on a device connected to the TV via a Home Network may not play back smoothly.

  🖉   IEEE 802.11 ac communication protocol is not available on certain models.

- To use wireless Internet, the TV must be connected to a wireless router or modem. If the wireless router supports DHCP, the TV can use a DHCP or static IP address to connect to the wireless network.

- Select a channel that is not currently in use for the wireless router. If the channel set for the wireless router is currently being used by another device, the result is usually interference and/or a communications failure.

- Most wireless networks have an optional security system. To enable a wireless network's security system, you need to create a password using characters and numbers. This password is then needed to connect to a security-enabled AP.

Wireless security protocols

The TV only supports the following wireless network security protocols. The TV cannot connect to non-certified wireless routers.

- Authentication Modes: WEP, WPAPSK, WPA2PSK

- Encryption Types: WEP, TKIP, AES

In compliance with the newest Wi-Fi certification specifications, Samsung TVs do not support WEP or TKIP security encryption in networks running in the 802.11n mode. If the wireless router supports WPS (Wi-Fi Protected Setup), you can connect the TV to your network using PBC (Push Button Configuration) or a PIN (Personal Identification Number). WPS automatically configures the SSID and WPA key settings.

Read Before Connecting a Computer (Supported Resolutions)

Check the supported resolution for PC input signals.

When you connect your TV to a computer, set the computer's video card to one of the standard resolutions listed in the tables below or on the next page. The TV will automatically adjust to the resolution you choose. Note that the optimal and recommended resolution is 3840 x 2160 at 60 Hz. Choosing a resolution not included in the tables can result in a blank screen or just the power indicator turning on. Refer to the user manual of your graphics card for compatible resolutions.

IBM

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
720 x 400	70 Hz	31.469	70.087	28.322	- / +

MAC

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
640 x 480	67 Hz	35.000	66.667	30.240	- / -
832 x 624	75 Hz	49.726	74.551	57.284	- / -
1152 x 870	75 Hz	68.681	75.062	100.000	- / -

VESA DMT

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
640 x 480	60 Hz	31.469	59.940	25.175	- / -
640 x 480	72 Hz	37.861	72.809	31.500	- / -
640 x 480	75 Hz	37.500	75.000	31.500	- / -
800 x 600	60 Hz	37.879	60.317	40.000	+ / +
800 x 600	72 Hz	48.077	72.188	50.000	+ / +
800 x 600	75 Hz	46.875	75.000	49.500	+ / +
1024 x 768	60 Hz	48.363	60.004	65.000	- / -
1024 x 768	70 Hz	56.476	70.069	75.000	- / -
1024 x 768	75 Hz	60.023	75.029	78.750	+ / +
1152 x 864	75 Hz	67.500	75.000	108.000	+ / +
1280 x 720	60 Hz	45.000	60.000	74.250	+ / +
1280 x 800	60 Hz	49.702	59.810	83.500	- / +
1280 x 1024	60 Hz	63.981	60.020	108.000	+ / +
1280 x 1024	75 Hz	79.976	75.025	135.000	+ / +
1366 x 768	60 Hz	47.712	59.790	85.500	+ / +
1440 x 900	60 Hz	55.935	59.887	106.500	- / +
1600 x 900RB	60 Hz	60.000	60.000	108.000	+ / +
1680 x 1050	60 Hz	65.290	59.954	146.250	- / +
1920 x 1080	60 Hz	67.500	60.000	148.500	+ / +

Supported Resolutions for Video Signals

Check the supported resolution for video signals.

CEA-861

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
720 (1440) x 576i	50 Hz	15.625	50.000	27.000	- / -
720 (1440) x 480i	60 Hz	15.734	59.940	27.000	- / -
720 x 576	50 Hz	31.250	50.000	27.000	- / -
720 x 480	60 Hz	31.469	59.940	27.000	- / -
1280 x 720	50 Hz	37.500	50.000	74.250	+ / +
1280 x 720	60 Hz	45.000	60.000	74.250	+ / +
1920 x 1080i	50 Hz	28.125	50.000	74.250	+ / +
1920 x 1080i	60 Hz	33.750	60.000	74.250	+ / +
1920 x 1080	24 Hz	27.000	24.000	74.250	+ / +
1920 x 1080	25 Hz	28.125	25.000	74.250	+ / +
1920 x 1080	30 Hz	33.750	30.000	74.250	+ / +
1920 x 1080	50 Hz	56.250	50.000	148.500	+ / +
1920 x 1080	60 Hz	67.500	60.000	148.500	+ / +
3840 x 2160	24 Hz	54.000	24.000	297.000	+ / +
3840 x 2160	25 Hz	56.250	25.000	297.000	+ / +
3840 x 2160	30 Hz	67.500	30.000	297.000	+ / +
3840 x 2160	50 Hz	112.500	50.000	594.000	+ / +
3840 x 2160	60 Hz	135.000	60.000	594.000	+ / +
4096 x 2160	24 Hz	54.000	24.000	297.000	+ / +
4096 x 2160	25 Hz	56.250	25.000	297.000	+ / +
4096 x 2160	30 Hz	67.500	30.000	297.000	+ / +
4096 x 2160	50 Hz	112.500	50.000	594.000	+ / +
4096 x 2160	60 Hz	135.000	60.000	594.000	+ / +

Read Before Using Bluetooth Devices

Read this information before using a Bluetooth device.

✎ This function is not available on certain models in specific geographical areas.

Restrictions on using Bluetooth

- You can't use Bluetooth devices and the Surround feature simultaneously.

- Compatibility issues may occur, depending on the Bluetooth device. (A Mobile exclusive headphone may not be available, depending on the environment.)

- Lip-sync errors may occur.

- The TV and Bluetooth device may disconnect, depending on the distance between them.

- A Bluetooth device may hum or malfunction:

  - When a part of your body is in contact with the receiving/transmitting system of the Bluetooth device or the TV.

  - When the device is subject to electrical variation from obstructions caused by a wall, corner, or office partitioning.

  - When the device is exposed to electrical interference from same frequency-band devices including medical equipment, microwave ovens, and wireless LANs.

- If the problem persists, try connecting the device using the digital optical port or the HDMI (ARC) port.

Blocking programs based on their TV Rating

Read this information before viewing a blocking program.

To block content, select a rating category to lock. All programs at that level and higher are blocked and require the PIN to watch. To unblock a category, select the lock icon. To unblock all the categories in a row, select the lock under ALL.

Categories on the left:

- TV-Y: Young children

- TV-Y7: Children 7 and over

- TV-G: General audience

- TV-PG: Parental guidance

- TV-14: Viewers 14 and over

- TV-MA: Mature audience

Categories on the top:

- ALL: Lock all TV ratings.

- FV: Fantasy violence

- V: Violence

- S: Sexual situations

- L: Adult Language

- D: Sexually Suggestive Dialog

Blocking movies base on their Movie Rating (MPAA)

This rating system applies to all materials with supplied ratings in the U.S.A.

From the MPAA:

"The Motion Picture Association of America (MPAA) has implemented a rating system that provides parents or guardians with advanced information on which films are appropriate for children."

Select a lock beside one of the rating categories to block that category and all higher categories. To unblock a category, select the lock icon.

- G: General audience (no restrictions).
- PG: Parental guidance suggested.
- PG-13: Parents strongly cautioned.
- R: Restricted. Children under 17 should be accompanied by an adult.
- NC-17: No children under age 17.
- X: Adults only.
- NR: Not rated.

Blocking programs based on their Canadian English Rating

This rating system applies to all rated material viewed on English-Canadian TV channels.

Select a lock beside one of the rating categories to block that category and all higher categories. To unblock a category, select the lock icon.

- C: Programming intended for children under age 8
- C8+: Programming generally considered acceptable for children 8 years and over to watch on their own
- G: General programming, suitable for all audiences
- PG: Parental Guidance
- 14+: Programming containing themes or content that may not be suitable for viewers under the age of 14
- 18+: Adult programming

Blocking programs based on their Canadian French Rating

This rating system applies to all rated material viewed on French-Canadian TV channels.

Select a lock beside one of the rating categories to block that category and all higher categories. To unblock a category, select the lock icon.

- G: General
- 8 ans+: Programming acceptable for children 8 years and over to watch on their own
- 13 ans+: Programming that may not be suitable for children under the age of 13
- 16 ans+: Programming not suitable for children under the age of 16
- 18 ans+: Programming restricted to adults

Blocking Programs based on their Downloadable U.S. Rating

This rating system only applies to material originating from US DTV channels.

Parental restriction information is automatically downloaded while you watch DTV channels. This download may take several seconds. If the information is unavailable from the broadcasting station, the Downloadable U.S. Rating menu is deactivated.

Parental restriction levels differ with the broadcasting station. The default menu name and the Downloadable U.S. Rating name changes depending on the downloaded information.

Even when the on-screen display is set to another language, the Downloadable U.S. Rating menu appears only in English.

Select a lock beside one of the rating categories to block that category and all higher categories. To unblock a category, select the lock icon.

Buttons and Functions

Review available media playback, control, and record buttons and descriptions of how they are used.

 The available buttons and functions may differ with the content you are viewing or playing.

Buttons and functions available while playing multimedia content

Press the Select button while playing any video, photo or recorded content. The following buttons appear.

 The provided buttons or functions may differ with the media content type.

- Pause / Play or Start

  Pauses or plays the multimedia content. You can use the following functions when the video is paused.

  - Slow Rewind or Slow Forward: Allows you to play the video slowly (1/8, 1/4, 1/2) backward or forward by selecting the ◀◀ or ▶▶ button. To increase the rewind or forward speed in slow mode up to 3 times, select the button repeateldy. To return to normal speed, select the ▶ button or press the ▶▮ button.

- Previous / Next

  Displays the previous or the next multimedia content file.

- Rewind / Fast Forward

  Rewinds or fast forwards the multimedia content. To increase the rewind or fast forward speed up to 3 times faster than normal, select the button repeatedly. To return to normal speed, select the ▶ button or press the ▶▮ button.

- Repeat

  Plays the current multimedia content repeatedly or all multimedia content files in the same folder repeatedly.

- Shuffle

  Plays music files in random order.

- Picture Off

  Plays multimedia content with the screen off.

- Rotate left / Rotate right

  Rotates a photo left or right.

- Zoom

  Zooms a photo in by up to a factor of 4.

- Screen Fit

  Fits a photo to the screen.

- Background Music

  During a slideshow, plays or pauses the background music.

- Options

  🖉   The available options may differ with the model and content.

Function	Description
Slideshow Speed	Sets the slideshow speed.
Slideshow Effect	Applies transition effects to the slide show.
Background Music	Plays background music while the TV displays photos. 🖉 The music files must be saved in the same USB device as the photo files. 🖉 To pause the background music, select **Background Music** on the playback screen.
Information	Displays detailed information about the current multimedia content.
Subtitles	Controls video subtitles. Subtitles: Turns the subtitles on or off. Language: Sets the caption language. Sync: Adjusts the synchronization when the video and the subtitles are not synchronized. Reset Sync: Resets the subtitle synchronization adjustment to 0. Size: Changes the font size of the subtitles. Encoding: Displays a list of encoding languages. Allows you to change the encoding language when subtitles are displayed incorrectly. Edge Type: Adjusts a position of texts and subtitles edge. Edge Color: Changes a color of subtitles edge.
Rotate	Rotates the video.
Audio Language	This function is only available if the video supports multi-track sound.

Buttons and functions available while using sports mode

If you press the Select button, the following buttons appear.

- Zoom

  Pauses the current screen and zooms in any part of the screen by using the Directional pad.

  🖉 This function is not available when you browse the multimedia content saved on a USB storage device or PIP is active.

- Record

  🖉 This function is only available if the TV supports the recording function.

- Timeshift

  You can pause and rewind live TV.

  🖉 For more information about Timeshift, refer to "Using Timeshift."

  🖉 This function is only available if the TV supports the recording function.

- Manual Highlight

  Saves a video from 10 seconds before you press the button to 10 seconds after.

  🖉 You can set the TV to automatically save highlights without user intervention. Select ⌂ > ⚙ Settings > Picture > Special Viewing Mode > Sports Mode, and then set Auto Highlights to On. For more information about Auto Highlights, refer to "Extracting highlights automatically."

  🖉 This function is only available while recording a program.

- Highlights Player

  Displays the Highlights Player screen and plays the highlights saved in the recorded file automatically or manually. Highlights Player is not available when:

  - You are switching the input signal

  - Video Description is on

  🖉 This function is only available while recording a program.

- Dual Play

  Allows you to watch a current program in a PIP window while watching a recorded program. To exit PIP mode, select again. Dual Play is not available when:

  - You are switching the input signal

  - Video Description is on

  - You are viewing a soccer game in the UHD resolution

  🖉 This function is only available while recording a program.

  🖉 This button is only available while you are watching a timeshift video.

Using the TV as a display model (for retail stores)

⌂ > ⚙ Settings > System > Expert Settings > Usage Mode

You can turn the TV into a display model for retail environments by setting Usage Mode to Retail Mode.

    For all other uses, select Home Mode.

    With Retail Mode, some functions are disabled, and the TV automatically resets itself after a preset amount of time.

Enabling game mode

⌂ > ⚙ Settings > Picture > Special Viewing Mode > Game Mode

    The game mode is not available for normal TV viewing.

    The screen may shake somewhat.

    When Game Mode is enabled, Picture Mode and Sound Mode are switched to Game automatically.

    To use a different external device, first disconnect the game console and disable Game Mode.

Restoring the TV to the factory settings

⌂ > ⚙ Settings > Support > Self Diagnosis > Reset

You can restore all TV settings (excluding the Internet and network settings) to the factory defaults.

1. Select Reset. The security PIN entry window appears.

2. Enter the security PIN, and then select Yes. All settings are then reset. The TV turns off and on again automatically and displays the Setup screen.

    For more information on Setup, refer to the user manual that came with the TV.

Getting Support

Get help directly from Samsung if you have a problem with your TV.

Getting support through Remote Management

⌂ > ⚙ Settings > Support > Remote Management **Try Now**

To let Samsung Electronics diagnose your TV remotely when you need assistance with your TV, set **Remote Management** to **On**. You will need to read and agree to the service agreement before using this feature.

    This function requires an Internet connection.

What is Remote Support?

Samsung Remote Support service offers you one-on-one support with a Samsung Technician who can remotely:

- **Diagnose** your TV
- **Adjust the TV settings** for you
- . Perform a factory reset your TV
- Install recommended **firmware updates**

How does Remote Support Work?

You can easily have a Samsung Tech service your TV remotely:

1. Call the Samsung Contact Center and ask for remote support.
2. Open the menu on your TV and go to the Support section.
3. Select Remote Management, then read and agree to the service agreements. When the PIN screen appears, provide the PIN number to the agent.
4. The agent will then access your TV.

Finding the contact information for service

⌂ > ⚙ Settings > Support > Contact Samsung **Try Now**

You can view the address of the Samsung website, the call center phone number, your TV's model number, your TV's software version, the Smart Hub info, and other information you may need to get service support from a Samsung call agent or the Samsung website.

    You can also find information by reading the QR code of the product.

Requesting service

⌂ > ⚙ Settings > Support > Request Support 〔TRY NOW〕

    This function is not available in specific geographical areas.

You can request service when you encounter a problem with the TV. Select the item matching the problem that you encountered, and then select Request Now or Schedule Appointment > Send. Your service request will be registered.

    You should agree to the terms and conditions for the service request.

Diagnosing TV operational issues

You can diagnose issues with your TV and Smart Hub and run reset functions.

⌂ > ⚙ Settings > Support > Self Diagnosis 〔TRY NOW〕

You can use the Picture Test to help diagnose video issues and the Sound Test to diagnose sound issues. You can also view signal strength information for over-the-air digital signals, test the Smart Hub Internet connection, and run the Smart Hub and TV factory reset functions.

There Is a Problem with the Picture

When the TV has trouble with the picture, these steps may help resolve the problem.

Testing the picture

⌂ > ⚙ Settings > Support > Self Diagnosis > Start Picture Test

Before you review the list of problems and solutions below, use Start Picture Test to determine if the problem is caused by the TV. Start Picture Test displays a high definition picture you can examine for flaws or faults.

The problem	Try this!
Flickering and Dimming	If your Samsung Television is flickering or dimming sporadically, you may need to disable some of the energy efficiency features. Disable Energy Saving Mode (⌂ > ⚙ Settings > System > Eco Solution > Energy Saving Mode), Eco Sensor (⌂ > ⚙ Settings > System > Eco Solution > Eco Sensor), or Motion Lighting (⌂ > ⚙ Settings > System > Eco Solution > Motion Lighting).
Component Connections/Screen Color	If the color on your Samsung television screen is not correct or the black and white colors are off, run Start Picture Test (⌂ > ⚙ Settings > Support > Self Diagnosis > Start Picture Test). If the test results indicate that the problem is not caused by the TV, do the following: • Confirm that the video input connectors are connected to the correct external device video output connectors. • Check the other connections as well. If the TV is connected to an external device via a component cable, confirm that the Pb, Pr, and Y jacks are plugged into their proper connectors.

The problem	Try this!
Screen Brightness	If the colors on your Samsung TV are correct but just a little too dark or bright, try adjusting the following settings first. • Select ⌂ > ⚙ Settings > Picture > Expert Settings and adjust the Backlight, Contrast, Brightness, Sharpness, Color, or Tint (G/R) settings.
Ghosting, Blurring, or Juddering	If you notice ghosting or blurring on the screen, use the Auto Motion Plus function (⌂ > ⚙ Settings > Picture > Expert Settings > Auto Motion Plus) to resolve the issue.
Unwanted Powering Off	If your Samsung TV appears to turn off by itself, try disabling some of the TV's energy efficiency functions. See if Sleep Timer (⌂ > ⚙ Settings > System > Time > Sleep Timer) has been enabled. The Sleep Timer automatically turns the TV off after a specified period of time. If the Sleep Timer has not been enabled, see if Auto Power Off (⌂ > ⚙ Settings > System > Eco Solution > Auto Power Off) has been enabled and disable it.
Problems Powering On	If you are having problems powering on your Samsung television, there are a number of things to check before calling the service department. Confirm that the TV's power cord is connected correctly at both ends and that the remote control is operating normally. Make sure that the antenna cable or cable TV cable is firmly connected. If you have a cable or satellite box, confirm that it is plugged in and turned on.
Unable to find a Channel	If your TV is not connected to a cable or satellite box, run Auto Program (⌂ > ⚙ Settings > Broadcasting > Auto Program).
The TV image does not look as good as it did in the store.	Store displays are all tuned to digital, HD (high definition) channels. If you have an analog cable or satellite box, upgrade to a digital cable or satellite box. Use HDMI or Component cables to deliver HD (high definition) picture quality. Many HD channels are upscaled from SD (Standard Definition) content. Look for a channel that is broadcasting HD content. • Cable/Satellite Subscribers: Try HD channels from the channel lineup. • Air/Cable Antenna Connection: Try HD channels after running the Auto Program function. Adjust the cable or satellite box's video output resolution to 1080i or 720p.
The picture is distorted.	The compression of video content may cause picture distortions, especially in fast moving pictures from sports programs and action movies. If the signal reception is weak or poor, screen distortion may be accompanied but it is not a malfunction. Mobile phones used close to the TV (within 3.2 ft) may cause noise in analog and digital channels.
The color is wrong or missing.	If you're using a Component connection, make sure that the Component cables are connected to the correct jacks. Incorrect or loose connections may cause color problems or a blank screen.

The problem	Try this!
The color is poor or the picture is not bright enough.	Go to the Picture and then adjust the Picture Mode, Brightness, Sharpness, and Color settings. See if Energy Saving Mode (⌂ > ⚙ Settings > System > Eco Solution > Energy Saving Mode) has been enabled. Try resetting the picture. (⌂ > ⚙ Settings > Picture > Expert Settings > Reset Picture)
There is a dotted line on the edge of the screen.	Change Picture Size to 16:9 Standard.
The picture is black and white.	If you are using AV, analog equipment, disconnect the adapter from the Component (Blue) input jack on the TV and connect it to the AV In (Yellow) input jack.

- If the test picture does not appear or there is noise or distortion, the TV may have a problem. Contact Samsung's Call Center for assistance.

- If the test picture is displayed properly, there may be a problem with an external device. Please check the connections.

- If the problem persists, check the signal strength or refer to the external device's user manual.

I Can't Hear the Sound Clearly

When the TV has difficulties with sound, these steps may help resolve the problem.

Testing the sound

⌂ > ⚙ Settings > Support > Self Diagnosis > Start Sound Test

If the TV plays the Start Sound Test melody without distortion, there may be a problem with an external device or the broadcast signal's strength.

The problem	Try this!
There is no sound or the sound is too low at maximum volume.	Check the volume control of the device (cable or satellite box, DVD, Blu-ray, etc.) connected to your TV.
The picture is good but there is no sound.	Set ⌂ > ⚙ Settings > Sound > Select Speaker to TV Speaker. If you are using an external device, check the device's audio output option. (For example, you may need to change your cable box's audio option to HDMI if the box connected to your TV is using an HDMI cable.) To listen to computer sound, connect an external speaker to the computer's audio output connector. If your TV has a headphone jack, make sure there is nothing plugged into it. Reboot the connected device by disconnecting and then reconnecting the device's power cable.

The problem	Try this!
The speakers are making an odd sound.	Make sure that the audio cable is connected to the correct audio output connector on the external device. For antenna or cable connections, check the signal information. A low signal level may cause sound distortions. Run Start Sound Test (⌂ > ⚙ Settings > Support > Self Diagnosis > Start Sound Test).

There Is a Problem with the Broadcast

When the TV has difficulties receiving broadcasts, these steps may help resolve the problem.

The problem	Try this!
"Weak or No Signal" displayed in TV mode/ cannot find channel.	Select ⌂ > ⊡ Source to confirm that the correct input source has been selected. If the TV is not connected to a cable or satellite box, run Auto Program to search for channels (⌂ > ⚙ Settings > Broadcasting > Auto Program).
The TV is not receiving all channels.	Confirm that the coaxial cable is securely connected to the TV. Run Start Setup (⌂ > ⚙ Settings > System > Start Setup) or Auto Program (⌂ > ⚙ Settings > Broadcasting > Auto Program).
There are no captions with digital channels.	Go to Caption (⌂ > ⚙ Settings > System > Accessibility > Caption) and change the Caption Mode. Some channels may not have caption data.
The picture is distorted.	The compression of the video content may cause picture distortions. This is especially true with fast moving pictures from sports programs and action movies. A weak signal can cause picture distortions. This is not a problem with the TV.
The picture quality is low.	Select high definition (HD) channels or programs.

My Computer Won't Connect

When the TV has difficulties connecting to a PC, these steps may help resolve the problem.

The problem	Try this!
The "Mode Not Supported" message appears.	Set your PC's output resolution so it matches a resolution supported by the TV.
The video is OK but there is no audio.	If you are using an HDMI connection, check the audio output setting on your PC.
	If you are using an HDMI-to-DVI cable, a separate audio cable is required. Note that the HDMI-to-DVI connection is only supported by the HDMI (DVI) port and does not transmit audio. To listen to the computer sound, connect external speakers to the audio output connection of the computer.

The TV Won't Connect to the Internet

When the TV has difficulties connecting to the Internet, these steps may help resolve the problem.

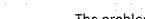| The problem	Try this!
The TV cannot connect to your network or apps (for Internet compatible models only).	Make sure the TV has a network connection (⌂ > ⚙ Settings > Network > Network Status).
	Contact your Internet service provider.
The wireless network connection failed.	Confirm your wireless modem/router is on and connected to the Internet.
The wireless network signal is too weak.	Position your wireless router, modem router, or access point in a central location. Avoid putting it in a corner.
	Use a wireless repeater to get an instant boost in your wireless signal strength. Place the repeater halfway between your wireless router and your TV.
	The most common wireless technology, 802.11g (wireless-G), operates at a frequency of 2.4 GHz. This frequency is widely used by many cordless phones, microwave ovens, baby monitors, garage doors, and other wireless devices. Reduce interference by not using or turning off wireless devices that use the 2.4 GHz frequency. Instead, use devices that communicate via the 5.0 GHz frequency.
The software update over the Internet has failed.	Check the network connection status (⌂ > ⚙ Settings > Network > Network Status).
	If the TV is not connected to a network, connect it to a network.
	The upgrade stops if you already have the latest software version.

The Schedule Recording/Timeshift Function Isn't Working

When Timeshift or Schedule recording aren't working, these steps may help resolve the problem.

⟡ This function is not available in the U.S.A. and Canada.
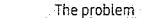
The problem	Try this!
Schedule Recording cannot be used.	Check if there is a USB device connected to the TV.
	Recording will automatically stop if the signal becomes too weak. The Timeshift function will not work if there isn't enough storage space on the USB device.

Anynet+ (HDMI-CEC) Isn't Working

When Anynet+ (HDMI-CEC) isn't working, these steps may help resolve the problem.

The problem	Try this!
Anynet+ does not work.	Confirm that the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.
	Check if the power cord of the Anynet+ device is properly connected.
	Check the cable connections of the Anynet+ device.
	Go to Anynet+ (HDMI-CEC) (⌂ > ⚙ Settings > System > Expert Settings > Anynet+ (HDMI-CEC)) and see if Anynet+ (HDMI-CEC) has been set to On.
	Check whether the TV remote control is in TV mode.
	Check whether the remote control is Anynet+ compatible.
	Anynet+ may not function when some other functions are active, including Channel Search, Smart Hub, Initial Setup, etc.
	If you have disconnected and then reconnected the HDMI cable, scan for devices again or turn your TV off and on.
I want to start Anynet+.	Check if the Anynet+ device is properly connected to the TV, and then select the Anynet+ (HDMI-CEC) (⌂ > ⚙ Settings > System > Expert Settings > Anynet+ (HDMI-CEC)) menu to see if Anynet+ (HDMI-CEC) is set to On.
I want to exit Anynet+.	Set Anynet+ (HDMI-CEC) (⌂ > ⚙ Settings > System > Expert Settings > Anynet+ (HDMI-CEC)) to Off.
The message "Connecting to Anynet+ device..." or "Disconnecting from Anynet+ device" appears on the screen.	You cannot use the remote control when the TV is configuring Anynet+ or switching to a viewing mode. Use the remote control after the TV has completed the Anynet+ configuration or has switched to a viewing mode.
The Anynet+ device won't play.	You cannot use the play function when Start Setup is in progress.

The problem	Try this!
The connected device is not displayed.	Check whether the device supports Anynet+.
	Check whether the HDMI cable is properly connected.
	Go to Anynet+ (HDMI-CEC) (⌂ > ⚙ Settings > System > Expert Settings > Anynet+ (HDMI-CEC)) and see if Anynet+ (HDMI-CEC) has been set to On.
	Scan for Anynet+ devices again.
	Anynet+ devices must be connected to the TV using an HDMI cable. Make sure the device is connected to your TV with an HDMI cable. Some HDMI cables may not support Anynet+.
	If the connection is terminated because there has been a power failure or the HDMI cable has been disconnected, please scan for the device again.
The TV audio is not being played through the receiver.	Connect an optical cable to the TV and the receiver.
	ARC enables the TV to output digital sound via the HDMI (ARC) port.
	However, ARC is only available when the TV is connected to an audio receiver that supports ARC.

I Have Trouble Launching/Using Apps

When apps aren't working, these steps may help resolve the problem.

The problem	Try this!
I launched an app, but it's in English. How can I change the language?	Languages supported by the app may be different from the user interface language. The ability to change the language depends on the service provider.
My application is not working.	Check with the service provider.
	Refer to the Help section on the application service provider's website.

My File Won't Play

When files aren't playing, this may help resolve the problem.

The problem	Try this!
Some files can't be played.	This problem may occur with high-bitrate files. Most files can be played back, but you might experience problems with high-bitrate files.

I Want to Reset the TV

Initialize the settings to factory defaults.

Reset	Path	Description
Reset Settings	⌂ > ⚙ Settings > Support > Self Diagnosis > Reset	Resets Picture, Sound, Broadcasting, and all other settings, except for the network settings, to the default settings.
Reset Smart Hub	⌂ > ⚙ Settings > Support > Self Diagnosis > Reset Smart Hub	Resets all Smart Hub settings to their factory defaults and deletes all information related to Samsung accounts, linked service accounts, Smart Hub service agreements, and Smart Hub applications.

Other Issues

Use these procedures to resolve other issues that may occur.

The problem	Try this!
The TV is hot.	Watching TV for an extended period of time causes the panel to generate heat. The heat from the panel is dissipated through internal vents running along the top of the TV. The bottom, however, may feel hot to the touch after extended use. Children watching TV need constant adult supervision to prevent them from touching the TV. This heat, however, is not a defect and does not affect the TV's functionality.
The picture won't display in full screen.	HD channels will have black bars on either side of the screen when displaying upscaled SD (4:3) content. Black bars will appear at the top and bottom of the screen when you watch movies that have aspect ratios different from your TV. Adjust the picture size options on your external device or set the TV to full screen.
The "Mode Not Supported" message appears.	The output resolution of the attached device is not supported by the TV. Check the TV's supported resolutions and adjust the external device's output resolution accordingly.
The Captions item in the TV is grayed out.	When an external device is connected with an HDMI or Component cable, the Caption is unavailable. Adjust the caption setting on the external device.
The TV smells of plastic.	This smell is normal and will dissipate over time.
The Signal Information under Self Diagnosis isn't activated.	Verify that the current channel is a digital channel. Signal Information is only available for digital channels.
The TV is tilted to the side.	Remove the base stand from the TV and reassemble it.
The stand is wobbly or crooked.	Make sure the indicator arrows on the stand and stand holder are properly aligned.

The problem	Try this!
The remote control and/or voice control does not work.	The TV ships with protective stickers covering some of the sensors. Make sure all of the stickers have been removed.
The Broadcasting has been deactivated.	Broadcasting is only available when the Source is set to TV. The Broadcasting cannot be accessed while you watch TV using a cable or satellite box. The Broadcasting cannot be accessed while a recording is in progress or the Timeshift function is running.
The settings are lost after 5 minutes or every time the TV is turned off.	If the Usage Mode is set to Retail Mode, the TV's audio and video settings are automatically reset every 5 minutes. Change the Usage Mode (⌂ > ⚙ Settings > System > Expert Settings > Usage Mode) to Home Mode.
There is an intermittent loss of audio or video.	Check the cable connections and reconnect them. Loss of audio or video can be caused by using overly rigid or thick cables. Make sure the cables are flexible enough for long term use. If you are mounting the TV to a wall, we recommend using cables with 90-degree connectors.
There are small particles on the TV's bezel.	This is part of the product's design and is not a defect.
The PIP is not available.	PIP is available only when an external device is connected with an HDMI or Component cable. Note that the function is unavailable when the Smart Hub is active or the Sports Mode is On. ✎ This function is not available in the U.S.A. and Canada.
A POP (TV's internal banner ad) appears on the screen.	Change the Usage Mode (⌂ > ⚙ Settings > System > Expert Settings > Usage Mode) to Home Mode.
The TV is making a popping noise.	The expansion and contraction of the TV's outer casing may cause a popping noise. This does not indicate a product malfunction. The TV is safe to use.
The TV is making a humming noise.	Your TV utilizes high-speed switching circuits and high levels of electrical current. Depending on the TV's brightness level, the TV may seem slightly noisier than a conventional TV. Your TV has undergone strict quality control procedures that meet our demanding performance and reliability requirements. Some noise coming from the TV is considered normal and is not an acceptable cause for an exchange or refund.

Before Using the Recording and Timeshift Functions

Read these instructions before using Recording and Timeshift.

Before using the recording and schedule recording functions

* Recording is not supported in the U.S.A. and Canada.

- To set up a Schedule Recording, you must first set the TV's clock. Set the Clock (⌂ > ⚙ Settings > System > Time > Clock).

- You can set up a maximum total of 30 Schedule Viewing and Schedule Recording entries.

- Recordings are DRM-protected and therefore cannot be played back on a computer or on a different TV. In addition, these files cannot be played back on your TV if its video circuit has been replaced.

- A USB hard drive with a speed of 5,400 rpm or above is recommended. However, RAID-type USB hard drives are not supported.

- USB memory sticks are not supported.

- The total recording capacity may differ with the amount of available hard drive space and the recording quality level.

- Schedule Recording requires at least 100 MB of free space on the USB storage device. Recording will stop if the available storage space falls below 50MB while recording is in progress.

- If the available storage space falls below 500 MB while both the Schedule Recording and Timeshift functions are in progress, only the recording will stop.

- The maximum recording time is 720 minutes.

- Videos are played according to the TV settings.

- If the input signal is changed while recording is in progress, the screen will go blank until the change is made. In this case, recording will resume, but ● will not be available.

- When using the Record or Schedule Recording function, the actual recording may start a second or two later than the specified time.

- If the Schedule Recording function is operating while a recording is being made on an HDMI-CEC external device, the priority is given to the Schedule Recording.

- Connecting a recording device to the TV automatically deletes abnormally saved recorded files.

- If the Off Timer or Auto Power Off has been set, the TV will override these settings, continue to record, and turn off after the recording has ended.

Before using the timeshift function

Timeshift is not supported in the U.S.A. and Canada.

- A USB hard drive with a speed of 5,400 rpm or above is recommended. However, RAID-type USB hard drives are not supported.

- USB memory sticks or flash drives are not supported.

- The total recording capacity may differ with the amount of available hard drive space and the recording quality level.

- If the available storage space falls below 500 MB while both the Schedule Recording and Timeshift functions are in progress, only the recording will stop.

- The maximum amount of time available for the Timeshift function is 90 minutes.

- The Timeshift function is not available for locked channels.

- Time-shifted videos are played according to the TV settings.

- The Timeshift function may be terminated automatically once it reaches its maximum capacity.

- The Timeshift function requires at least 1.5 GB of free space available on the USB storage device.

Supported Resolutions for UHD Input Signals

Check the supported resolution for UHD input signals.

- Resolution: 3840 x 2160p, 4096 x 2160p

    🖉 An HDMI connection with **HDMI UHD Color** set to **Off** supports up to UHD 50P/60P 4:2:0 input signals, while an HDMI connection with **HDMI UHD Color** set to **On** supports up to UHD 50P/60P 4:4:4 and 4:2:2 input signals.

If HDMI UHD Color is set to Off

Frame rate (fps)	Color Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	-	-	-	O

If HDMI UHD Color is set to On

Frame rate (fps)	Color Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	O	O	O	O
	10 bit	-	-	O	O
	12 bit	-	-	O	O

🖉 For the SUHD models, each HDMI connection can be individually optimized for **HDMI UHD Color**. For the UHD models, make sure to connect to the HDMI IN 1 port of the TV.

Read Before Using Voice Interaction

Read this information before using Voice Interaction.

Precautions for voice interaction

- Voice Interaction is not available in all languages, dialects, or regions. Its performance differs with the language chosen, voice volume, and ambient noise levels in the surrounding area.

- Voice Text Input requires that you agree to any third-party app's voice privacy policy.

- You must agree to the following privacy notices before using Interactive Voice Interaction:

    - Voice Interaction Privacy Notice, Nuance Privacy Notice

Requirements for using voice interaction

- The voice interaction rate differs with the volume/tone, pronunciation, and ambient sound environment (TV sound and ambient noise).

- The optimal volume for voice commands is between 75 dB and 80 dB.

Read Before Using Apps

Read this information before using Apps.

- Due to the product characteristics featured on Samsung Smart Hub, as well as limitations in available content, certain features, applications, and services may not be available on all devices or in all territories. Some Smart Hub features may also require additional peripheral devices or membership fees. Visit http://www.samsung.com for more information on specific device information and content availability. Services and content availability are subject to change without prior notice.

- Samsung Electronics takes no legal responsibility whatsoever for any interruption of app services caused by the service provider for any reason.

- Application services may be provided in English only and available content may differ with the geographical area.

- For more information about applications, visit the applicable service provider's website.

- An unstable Internet connection may cause delays or interruptions. In addition, applications may terminate automatically depending on the network environment. If this occurs, check your Internet connection and try again.

- Application services and updates may become unavailable.

- Application content is subject to change by the service provider without prior notice.

- Specific services may differ with the version of the application installed on the TV.

- An application's functionality may change in future versions of the application. If this occurs, run the application's tutorial or visit the service provider's website.

- Depending on the service provider's policies, certain applications may not support multitasking.